



FAST FACTS:

- **Smokers are at least two times more likely to be completely impotent than non-smokers.**
- **Cigar smoking and exposure to second-hand smoke are significant predictors of impotence.**
- **Some men recover partial or full restoration of sexual function after quitting smoking.**

Prepared by the
California Department
of Health Services,
Tobacco Control
Section

P.O. Box 942732,
MS 555
Sacramento, CA
94234-7320

Smoking and Impotence

What is Impotence (Erectile Dysfunction)?

Erectile dysfunction, known commonly as *impotence*, is defined as the persistent inability of the male to attain and maintain an

erection adequate to permit satisfactory sexual function.¹

How Common is Impotence?

Approximately 30 million men in the United States are impotent. Among 1,290 men 40 to 70 years old, who completed a sexual activity questionnaire for the Massachusetts Male Aging Study (MMAS), over half (52.0 percent) reported some degree of impotence, with over one-third (34.8 percent) moderately or completely impotent. The probability of

becoming impotent increases with age, yet this study also showed that impotence is surprisingly common in younger men in their 40s. In the MMAS, the probability of some degree of impotence rose from about 40 percent at age 40 to 48 percent at age 50 and nearly 70 percent at age 70.²

Medical Experts Believe Smoking is a Leading Contributor to Impotence

Satisfactory sexual function is a complex interaction involving the nervous (brain, spine, nerves), vascular (blood flow), and endocrine (hormones) systems, as well as the smooth muscles and fibrous tissues that relax and fill to maintain an erection. Since smoking can adversely affect all of these systems, the degree to which smoking-related impotence can be reversed depends on which system or systems are affected and the extent of the damage.^{3, 4}

According to the MMAS, smoking worsens existing cardiovascular problems that lead to impotence. In the MMAS, the association of complete impotence with heart disease and hypertension (high blood pressure) was found to be greatly amplified by cigarette smoking. The effects of cardiac and antihypertensive medications that are

known to contribute to impotence were also intensified by smoking.²

Further analysis of the MMAS study subjects revealed that cigarette smoking among the men interviewed in 1987-1989 almost doubled the likelihood of moderate or complete impotence when these men were interviewed again in 1995-1997. This analysis was limited to 513 men with no impotence at the time of the baseline interview and, at both interviews, no diabetes, heart disease,

or medications related to diabetes and heart disease. On top of that, the researchers found that cigar smoking and exposure to second-hand smoke are also significant predictors of impotence.⁵



continued

The MMAS and other studies were cited by doctors in a NOVA television special that aired May 12, 1998, and smoking was singled out as a major risk factor for impotence. The MMAS found that smokers are at least two times more likely to be completely impotent than non-smokers. The MMAS researchers found numerous factors contribute to a gradual decline in the circulatory or vascular system, including hypertension, high cholesterol, diabetes, and cigarette smoking, and erectile dysfunction is often associated with vascular disease.^{2, 3}

A study of 4,462 Vietnam veterans 31 to 49 years old revealed that the presence of either one or more vascular risk factors (such as atherosclerosis, hypertension, antihypertensive medications, and diabetes) or one or more psychological risk factors (such as depression or anxiety about performance), increased the probability of impotence among the smokers. This study also indicated that smoking is an *independent* risk factor for impotence. After adjusting for other known risk factors, current smokers had 50 percent more reported incidence of impotence than nonsmokers.⁶

Smoking Can Weaken or Destroy the Function of Several Systems that Interact During a Man's Sexual Arousal

A long-term effect of smoking is arterial blockage in the peripheral circulation, and the severity of this damage has been correlated directly with the amount of smoking. Doctors have known for decades that this effect on circulation is quite pronounced in the heart muscles, so it is not surprising that research on impotence is finding the same effect limiting erectile function. In a study examining the relationship between cigarette smoking and erectile physiology in 314 smokers with erectile dysfunction, the men were grouped according to the amount they smoked: 0 to 19, 20 to 39, or 40 or more (40+) cigarettes per day. This study found:^{3, 4}

- the heaviest smokers (40+) had the least rigid nocturnal erections;

- smoking was associated with some measures of abnormal declines in penile blood pressure; and

- the heaviest smokers (40+) had the fewest minutes of nocturnal tumescence and detumesced fastest.

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There is also a shorter-term effect on internal mechanisms of the penis, and some men recover partial or full restoration of sexual function after quitting smoking, even while using

nicotine transdermal patches. Many men report they lose erections before orgasm and ejaculation, and this condition often is reversed by quitting smoking, especially in men under the age of 60.^{3, 4}

References

¹Impotence. National Institutes of Health Consensus Statement, 10:1, December 1992.

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³NOVA Online, Transcripts, The Truth About Impotence. <<http://www.pbs.org/wgbh/nova/transcripts/2510impotence.html>> 1998 May 23

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turnal Penile Tumescence in Cigarette Smokers with Erectile Dysfunction. Urology, 1992 Feb; 39(2):101-107.

⁵Feldman HA, Johannes CB, Derby CA, Kleinman KP, Mohr BA, Araujo AB, and McKinlay JB: Erectile Dysfunction and Coronary Risk Factors: Prospective Results from the Massachusetts Male Aging Study. Preventive Medicine 2000; 30:328-338.

⁶Mannino DM, Klevens RM, Flanders WD: Cigarette Smoking: An Independent Risk Factor for Impotence? American Journal of Epidemiology, 1994 Dec 1; 140(11):1003-1008.